AMENDMENTS TO THE CLAIMS

The listing below of the claims will replace all prior versions and listings of claims in the present application:

Listing of Claims:

Claim 1 (currently amended): A method of producing a molybdenum-silicide-based heating element, said method comprising the steps of:

providing powdered molybdenum aluminosilicide material ~~$Mo(Si_{1-y}Al_y)_2$~~;

mixing the powdered molybdenum aluminosilicide material with SiO_2 to provide a heating element material mixture, wherein the SiO_2 is at least 98% pure, wherein the SiO_2 present in the heating element material mixture ~~is a silicate that~~ does not affect molybdenum silicide crystal lattice symmetry, and wherein the heating element material mixture is free of bentonite and excludes impurities that contain Mg, Ca, Fe, Na, and K;

forming a heating element from the heating element material mixture to provide a formed heating element; and

sintering the formed heating element, wherein after sintering the formed heating element contains substantially $Mo(Si_{1-x}Al_x)_2$ and Al_2O_3, wherein x lies in the range of ~~0.4 – 0.6~~ 0.45 – 0.55, and the heating element includes on its surface an oxide layer consisting essentially of Al_2O_3 that does not peel from the surface of the formed heating element under thermal cycling of the formed heating element between room temperature and about 1500°C, so that heating oven contamination

in the form of peeled oxide layer particles from the formed heating element within a heating oven containing the formed heating element is prevented.

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (canceled)

Claim 5 (previously presented): A method according to Claim 1, including the step of partially substituting at least one of Re and W for molybdenum in the aluminosilicide material.

Claim 6 (previously presented): An electrical heating element produced in accordance with the method claimed in claim 1.

Claim 7 (canceled)

Claim 8 (previously presented): A heating element according to Claim 6, wherein x lies in the range of 0.45 - 0.55.

Claim 9 (previously presented): A heating element according to Claim 6, wherein molybdenum in the aluminosilicide material is partially replaced with at least one of Re and W.

Claim 10 (currently amended): A method according to claim 1, wherein the ~~silicate is~~ SiO_2 is present as high purity mullite.

Claim 11 (currently amended): A method according to claim 1, wherein the ~~silicate is~~ SiO_2 is present as high purity sillimanite.

Claim 12 (new): A method according to claim 1, wherein the heating element material mixture includes a silicate having at least 98% pure SiO_2, and wherein other components of the included silicate have properties that prevent alloying of the other components of the included silicate with molybdenum silicide.